Computers, Environment AND Urban Systems

AN
INTERNATIONAL
JOURNAL

LIST OF CONTENTS
AND
AUTHOR INDEX
VOLUME 19, 1995

PERGAMON

Computers, Environment and Urban Systems

An International Journal

EDITOR

David C. Prosperi
Department of Urban and Regional Planning
Florida Atlantic University
Fort Lauderdale, FL 33301

ASSOCIATE EDITORS

Kate Beard
Department of Surveying Engineering
University of Maine
Orono, ME 04469

Richard E. Klosterman
Department of Geography and Planning
University of Akron
Akron, OH 44325

Richard Langendorf
School of Architecture
University of Miami
Coral Gables, FL 33124

Ian Masser
Department of Town and Regional Planning
University of Sheffield
Sheffield, UK S10 2TN

Vincent B. Robinson
Institute for Land Information Management
University of Toronto
Erindale College
Mississauga, Ontario
Canada L5L 1C6

Grant I. Thrall
Department of Geography
University of Florida
Gainesville, FL 32611

Marcia Lynn Whicker
Department of Public Administration
Graduate School
Rutgers University
701 Hill Hall
Newark, NJ 07102

Anthony Yeh
Centre of Urban Planning and Environmental Management
University of Hong Kong
Pokfulam Road
Hong Kong

EDITORIAL ADVISORY BOARD

Robert T. Aangeenbrug
University of South Florida

David Arbeit
Department of Planning and Growth Management
City of Austin

Larry E. Band
University of Toronto

Michael Batty
State University of New York at Buffalo

Earl J. Bell
University of Washington

Richard K. Brail
Rutgers University

Peter Burrough
University of Utrecht

Barbara P. Buttenfield
State Unversity of New York at Buffalo

Mike De Mers
New Mexico State University

Steve French
Georgia Institute of Technology

Margot W. Garcia
Virginia Commonwealth University

Kingsley E. Haynes
George Mason University
Fairfax, VA

Lewis D. Hopkins
University of Illinois

Allen P. Marks
The American University
Washington, DC

Theodore K. Miller
Indiana University

Hideo Nakamura
University of Tokyo

Maury Seldin
Homer Hoyt Advanced Studies Institute
North Palm Beach, FL

John M. Stevens
The Pennsylvania State University

Barry D. Solomon
U.S. Environmental Protection Agency

Michael Wegener
University of Dortmund

Barry Wellar
University of Ottawa

Lyna L. Wiggins
Massachusetts Institute of Technology

Production Editor: Katherine Woolway, E-mail Address: k.woolway@elsevier.co.uk

Editorial Office: David C. Prosperi, Department of Urban and Regional Planning, Florida Atlantic University, University Tower, 220 S.E., 2nd Ave., Fort Lauderdale, FL 33301, USA.

Publishing Office: Elsevier Science Ltd, Bampfylde Street, Exeter EX1 2AH, England (*Tel.* Exeter (01392) 51558; *Fax* (01392) 425370.

Subscription and Advertising Offices: *North America:* Elsevier Science Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, USA, E-mail Address: ESUK.USA@ELSEVIER.COM. *Rest of the World:* Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, England (*Tel.* Oxford (01865) 843000; *Fax* (01865) 843010

Frequency: Published bimonthly in January, March, May, July, September and November.

Subscription Rates: 1996: North, Central and South America, US$651.00, Rest of World £409.00. Associated Personal Subscription Rates are available on request for those whose institutions are library subscribers. Sterling prices exclude VAT. Non-VAT registered customers in the European Community will be charged the appropriate VAT in addition to the price listed. Prices include postage and insurance and are subject to change without notice.

Back Issues: Back issues of all previously published volumes are available direct from Elsevier Science Offices (Oxford and New York). Complete volumes and single issues can be purchased for 1991–1995. Earlier issues are available in high quality photoduplicated copies as complete volumes only.

PERIODICALS POSTAGE PAID AT NEWARK, NJ. *Computers, Environment and Urban Systems* (ISSN 0198-9715) is published 6 issues per year in January, March, May, July, September and November, by Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK. The annual subscription in the USA is $651.00. *Computers, Environmental and Urban Systems* is distributed by Mercury Airfreight International Ltd, 10 Camptown Road, Irvington, NJ 07111-1105, USA. POSTMASTER: Please send address corrections to *Computers, Environment and Urban Systems* c/o Elsevier Science Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, USA.

COMPUTERS, ENVIRONMENT AND URBAN SYSTEMS
VOLUME 19, LIST OF CONTENTS

Volume 19, Number 1 January/February, 1995

CONTENTS

Richard E. Klosterman	1	The appropriateness of geographic information systems for regional planning in the developing world
Andrew D. Kliskey	15	The role and functionality of GIS as a planning tool in natural-resource management
Howard Veregin **David P. Lanter**	23	Data-quality enhancement techniques in layer-based geographic information systems
Shuming Bao **Mark S. Henry** **David Barkley** **Kerry R. Brooks**	37	RAS: A Regional Analysis System integrated with ARC/INFO
Dharmesh K. Jain **Udoyara S. Tim** **Robert Jolly**	57	Spatial decision support system for planning sustainable livestock production

---

Volume 19, Number 2 March/April, 1995

Special Issue
GIS/LIS '95 • CENTRAL EUROPE

CONTENTS

Lucien Wald **Thierry Ranchin**	77	Fusion of images and raster-maps of different spatial resolutions by encrustation: An improved approach
Adrijana Car **Andrew U. Frank**	89	Formalization of conceptual models for GIS using Gofer

José F. G. Mendes	99	Cost estimation for the conversion of map-based land-use plans into digital GIS databases
Viveca Asproth **Anita Håkansson** **Peter Rèvay**	107	Dynamic information in GIS systems
Mihaly Szucs	117	Soil trace-elements availability maps of Hungary
Milutin Lješević **Dejan Filipović**	123	Environmental information system as the basis of environmental protection in Serbia
David Stanfield **Agim Kukeli**	131	Consolidation of the Albanian agricultural land reform through a program for creating an immovable property registration system

---

Volume 19, Number 3 May/June, 1995

Special Issue

17TH URBAN DATA MANAGEMENT SYMPOSIUM (UDMS) '94

CONTENTS

Katarina de Brisis	141	Government policy for information resources management and its implication for provision of information services to the public and to the experts
B. Saugy **J.-C. Hadorn** **R.-D. Hersch** **O. Graf** **R. Groux**	151	GigaView and HyperMaps for finite elements based urban networks and system managers
Alain Buogo **Jean-Jacques Chevallier**	161	Spatial information systems and information integration
Arvo Ilmavirta	171	The use of GIS-system in catastrophe and emergency management in Finnish municipalities
Antti Rainio	179	EDI based geographic information service
Massimo Rumor **Antonio Danieli**	185	EDI for local government: the EEC project edicities

Klaus Lenk	193	Contracts, multimedia networks and the human interface: enhancing public and commercial services through small common ServiceShops
L. Berner **N. Bogoyavlenskaya** **S. A. Iliushin** **E. Kitaitseva** **A. Kovalev** **A. Rochtchin**	201	Integrated approach to urban facilities maintenance and alarm management

---

Volume 19, Number 4 July/August, 1995

CONTENTS

James E. Moore II **Tschango John Kim**	207	Mills' Urban System Models: perspective and template for LUTE (Land/Use/Transport/ Environment) applications
Theo A. Arentze **Aloys W.J. Borgers** **Harry J.P. Timmermans**	227	The integration of expert knowledge in Decision Support Systems for facility location planning
Giles M. Foody **Mohamed R.M. Embashi**	249	Mapping despoiled land cover from Landsat Thematic Mapper imagery
Alan H. Peters **Peter S. Fisher**	261	Measuring the competitiveness of state and local economic development incentives
Xinhao Wang **Bruce Stauffer**	275	Application of GIS for Environmental Impact Analysis in a traffic relief study
Yichun Xie	287	The overlaid network algorithms for areal interpolation problem
Yong-Il Kim **Min Ho Park** **Mu Wook Pyeon**	307	Standardization of digital road map database for vehicle navigation in Korea

---

Volume 19, Number 5/6 November/December, 1995

CONTENTS

Vincent B. Robinson **D. Scott Mackay**	321	Semantic modeling for the integration of geographic information and regional hydroecological simulation management

Jayajit Chakraborty **Marc P. Armstrong**	341	Using Geographic Plume Analysis to assess community vulnerability to hazardous accidents
Giampiero E.G. Beroggi	357	A taxonomy of regional safety management from a risk information systems perspective
Jeffrey Page Johnson	373	Case studies of dissemination policy in local government GIS agencies
John Kackley **Piotr Jankowski**	391	Graphical modeling system supporting dynamic processing in a raster GIS
Jay Lee	409	Managing probation programs with geographic information systems
D.J. Beaton **G.E. Taylor** **D.J. Fairbairn** **A.G. Tipple**	419	Large scale spatial information systems in the built environment: an example applied to housing in the Third World